Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-7. (Canceled)

8. (Original) An isolated microtubule motor protein, wherein the protein has greater than 70% amino acid sequence identity to SEQ ID NO:2 or SEQ ID NO:4 as measured using a sequence comparison algorithm.

9-18. (Canceled)

19. (New) An isolated nucleic acid encoding a microtubule motor protein, wherein the motor protein has: (i) microtubule stimulated ATPase activity; and (ii) an amino acid sequence that has greater than 90% sequence identity to SEQ ID NO:2 or SEQ ID NO:4 as measured using a sequence comparison algorithm.

20. (New) The isolated nucleic acid of claim 19, wherein the nucleic acid encodes a motor protein has greater than 95% sequence identity to SEQ ID NO:2 or SEQ ID NO:4.

21. (New) The isolated nucleic acid of claim 20, wherein the nucleic acid encodes a motor protein that has greater than 98% sequence identity to SEQ ID NO:2 or SEQ ID NO:4.

22. (New) The isolated nucleic acid of claim 19, wherein the protein specifically binds to polyclonal antibodies raised against a protein comprising SEQ ID NO:2 or SEQ ID NO:4.

23. (New) The isolated nucleic acid of claim 19, wherein the nucleic acid encodes a protein having the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4.

24. (New) The isolated nucleic acid of claim 19, wherein the nucleic acid has the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:3.

25. (New) The isolated nucleic acid of claim 19, wherein the nucleic acid hybridizes selectively to SEQ ID NO:1 or SEQ ID NO:3.

26. (New) An expression vector comprising an isolated nucleic acid of claim 19.

27. (New) A host cell comprising the vector of claim 26.